

Promising Approaches to enGendering Development

Electricity, Productivity, and Empowerment in Char Montaz

Char Montaz, an isolated rural island in southern Bangladesh is the setting for a model project to deliver low-cost renewable energy services. The project has popularized the use of renewable energy, accelerated this isolated community's access to modern lighting, and empowered women.

Why this is a promising approach:

- § Utilized community owned and demand driven interventions
- § Launched after identification of community and gender-based needs
- § Tapped opportunities for rural women and their families to generate non-farm income
- § Utilized capacity of rural women in micro-credit management
- § Empowered women through technical and business training and skills
- § Demonstrated visible and indispensable community-wide benefits

Women deliver energy services

The project trained women to manage a co-operatively owned micro-enterprise that manufactures and sells energy products: battery-operated direct current (DC) lamps, batteries, battery charging facilities, diesel-operated micro-grid electrification, and solar home systems. These services are in high demand in a region which will probably not receive publicly-provided grid electrification for decades.

Within two years, over 1,200 households, shops, and boats started using DC lamps, and 300 business owners are on micro-grid services. These lamps and micro-grid services improved the quality of indoor air and lighting; improved household and business security; enhanced productivity; and increased incomes by 30 percent. Shops now keep longer hours, fishing boats operate electrical equipment, and children spend more time on school work at home.

The project has not only brought additional income to households and businesses, but also given women

the opportunity to acquire technical and business skills. By targeting women, it reduced their social exclusion and increased their decision-making roles in the community.

It changed the community's perceptions of women's capabilities, breaking down the rigidly-defined gender division of labor and expanded women's income-earning potential. The high desirability and the visible community-wide impacts of the energy services have gradually elevated women's status, earning them the respect of their communities and recognition from government as providers of energy services.

A sustainable micro-enterprise

Opportunity for Women in Renewable Energy Technology (RET) Utilization in Bangladesh started in 1999 with \$175,000 from the Energy Sector Management Assistance Program (ESMAP), a joint World Bank and UNDP program which supports poverty reduction and gender equality through sustainable energy solutions. The project's goals were to: develop a sustainable, private micro-enterprise model to deliver renewable energy services, with income-generating opportunities for women; and improve the government's capacity to reduce poverty and enhance economic growth through the use of RET. It was implemented by Prokaushali Sangsad Limited (PSL), an engineering consulting firm based in Dhaka.

Supports government's poverty strategy

Bangladesh's electricity grid covered just over 15 percent of all rural households. The government aimed to achieve universal electrification by 2020. However, providing electricity for close to ten million rural households, many of them on remote coastal islands, proved an economic, institutional, and geographic challenge. Renewable energy technologies, a decentralized mechanism of delivery, and partnerships with NGOs were all needed to meet the demand for electricity in rural areas.

Household energy surveys recognized needs

PSL conducted surveys on household energy use and alternatives for sustainable off-grid rural electrification. These surveys were carried out by female engineers from Dhaka, who learned from women in Char Montaz about their needs as providers and users of household energy.

Very few households surveyed used battery-charged DC lamps, and nearly 95 percent relied on kerosene lanterns and kupis (cans of kerosene with wicks stuck to them) for lighting. Kerosene is known to reduce indoor air quality, increase the risk of eye, nose, and throat irritation, and cause respiratory ailments, such as bronchitis and lung cancer. Kerosene lamps are also fire hazards.

“When I first started work in the Women’s DC Lamp Enterprise, the conservative local elite group wanted to close us down in the pretext that women are breaking the religious/social norms by going out of the household and working in a public space. Now they are the ones who are buying our lamps and energy services.” - Runu Begum, member of co-operative

Critical partners for energy service delivery

Household work, including collection of fuelwood and other energy sources, often falls on women and girls, in contrast to income-generating farming activities which are shared by men and women. Indoor work exposes women and children to air pollution from inefficient stoves, biomass fuels, and kerosene. The survey concluded that their experience as providers and users of household energy made women’s participation important for the delivery of healthy and renewable energy in the community.

The gender-based division of labor and social norms also limited women’s access to education and non-farm income. For example, less than half of the women selected to run the co-operative had completed primary education, and none of them had been employed in the formal sector. Consultations with women revealed that they faced social barriers that restricted their mobility and income earning potential. A women-run enterprise, providing much-needed energy products, was more likely than others to confront such barriers successfully.

Networking among NGOs helped

PSL introduced the concept of off-grid electrification to NGOs working in the region for over a decade. These NGOs helped to involve local stakeholders and decision-makers in the initial consultations. They were also important in the selection of the women entrepreneurs, who had previously been secluded in their households, with no access to market or formal employment. Many of them had demonstrated entrepreneurial skills as participants in micro-credit schemes implemented by NGOs. PSL trained them in assembly, quality control and marketing of DC lamps, batteries, and solar panels, and business development.

Project moves to second phase

The co-operative decided to implement credit schemes at its own risk, and since many of the consumers were known to the women, they experienced high rates of return. With credit sales the market for products grew.

Phase II, launched in May 2002, has expanded the credit schemes. The DC lamp manufacturing is being scaled up to meet demand beyond the islands in the region, and the micro-enterprise will diversify with new electronic product assembly for solar home systems. The government also plans to procure DC lamps for its programs.

The project is following a business plan to reach financial stability. PSL plans to withdraw in two years, as it expects the co-operative will have become a self-supported and growing small and medium scale enterprise in a national market for RET.

This approach has inspired others

- **Bangladesh:** PSL aims to use this approach in other parts of rural Bangladesh in need of electrification.
- **Bangladesh:** The lessons from this initiative were incorporated in the IDA/GEF-funded *Rural and Renewable Electrification Project*.
- **Ghana:** PSL is the consultant for a project to empower women in two villages through energy service delivery.

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